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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,485	04/17/2002	Svend-Erik Mikkelsen	H0610.0000	1371
24998	7590	04/05/2006	EXAMINER	
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP			TOOMER, CEPHIA D	
2101 L Street, NW			ART UNIT	
Washington, DC 20037			PAPER NUMBER	
			1714	

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/019,485		MIKKELSEN ET AL.	
	Examiner		Art Unit	
	Cephia D. Toomer		1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is in response to the amendment filed January 20, 2206 in which claim 12 was amended. Applicant is correct in that the claims 8-11 were canceled in January 2005 and that the previous Office action should have listed that rejected claims as claims 12-15.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 12-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The examiner does not find support in the specification nor does applicant point to the place in the specification wherein the limitation "the concentration of dimethyl ether is between 30 and 68% w/w, and the concentration of water is between 14 and 40 % w/w" is recited.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Basu (US 6,270,541) in view of Applicant's admitted prior art.

Basu teaches a diesel fuel composition comprising 70-95 wt % dimethyl ether, up to 20 wt % methanol and from 0.1 to about 20 wt % water (see abstract). Basu teaches that the fuel is used in a compression ignition engine with direct injection fuel system and fitted with an exhaust gas recirculation system (see col. 4, lines 61-67; col. 5, lines 1-4). Basu teaches the limitations of the claims other than the differences that are discussed below.

In the first aspect, Basu differs from the claims in that he does not specifically teach that the dimethyl ether is present in an amount from 30-68 % w/w. However, Basu teaches that the ether is present in an amount of 70 % and a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).

Basu fails to teach that the air for combustion is preheated to a temperature of at least 60 °C. However, Basu teaches that the diesel engine of his invention (col. 4, line 61 through col. 5, lines 1-4) is fitted with an exhaust recirculation system and Applicant discloses at page 9, lines 4-7 that exhaust gas temperatures range from 200 °C to more than 500 °C. These combined teachings suggest preheated air of at least 60 °C.

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3. Applicant's arguments have been fully considered but they are not persuasive.

Applicant argues that Basu does not teach, suggest or disclose the purpose of heating the exhaust gas or to use the exhaust gas for combustion air-cooling.

It should be pointed out that none of the above limitations have been set forth in the claims. Therefore, the examiner cannot address the above arguments.

Applicant argues that both the fuel to the engine and the cooling/heating of air to the engine are different in Basu and in the claimed invention.

The examiner agrees that the engines are not the same brand; however the engine of Basu performs the same function as the engine of the present invention. With respect to the fuel composition, the prior art differs from the fuel in that the amount of dimethyl ether used. However, a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties.

Applicant argues that Basu does not mention combustion air heating. Basu, teaches the engine of his invention is fitted with an exhaust gas recirculation device. This teaching suggests that the exhaust gas is circulated to preheat the combustion air. There is no other conceivable purpose for the recirculation of the exhaust gas.

Applicant argues that the present invention surprisingly has shown that operation of a diesel engine with a fuel being an equilibrium mixture of DME/methanol/water, and with preheating of combustion air to at least 60 °C results in improved performance of the engine.

Applicant's data have been considered but are not deemed to constitute unexpected results. The compositions wherein the DME/MeOH/water ratios are outside of the claimed proportions produce results similar to those compositions wherein the ratio proportions are within the scope of the present invention. Furthermore, Applicant has not compared the present invention to the closest prior art of record.

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

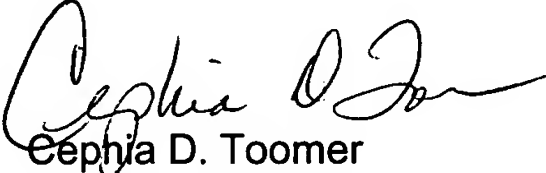
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cephia D. Toomer whose telephone number is 571-272-1126. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Cephia D. Toomer
Primary Examiner
Art Unit 1714

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